

**Notice of Allowability**

Application No.

09/635,096

Applicant(s)

SUDO, HIROAKI

Examiner

Michael J. Moore, Jr.

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/14/2004.
2. ☒ The allowed claim(s) is/are 10-23, renumbered 1-14, respectively.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

**FRANK DUONG  
PRIMARY EXAMINER**

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 12/2/04.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 12/2/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James E. Ledbetter (Reg. No. 28,732) on 12/2/2004.

The application has been amended as follows:

In the abstract:

On line 5, insert word --a-- before word "FFT". On line 7, replace word "demodulator" with word --demodulators--. On line 10, insert word --a-- before word "selector". On line 10, replace word "said" with word --the--. On line 11, replace word "demodulator" with word --demodulators--. Lastly, on line 12, replace word "said" with word --the--.

### ***Drawings***

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Allowable Subject Matter***

3. Claims **10-23** (renumbered 1-14, respectively) are allowed.
4. The following is an examiner's statement of reasons for allowance:

Regarding claim **10**, the prior art of record teaches a demodulator that performs both coherent detection and delay detection on a received signal as well as a selector that selects either coherent detection or delay detection to be applied to a received signal. The prior art of record fails to teach selecting either coherent detection or delay detection according to either a packet communication speed/channel variation speed relationship, packet length, or channel variation speed itself.

Regarding claims **11 and 12**, the prior art of record teaches a modulator that performs a first and a second modulation of a signal to produce a first and a second modulated signal, respectively, where the first and second modulation correspond to coherent detection and delay detection, respectively. The prior art of record also teaches a selector that selects one of these modulated signals for transmission. The prior art of record fails to teach selecting between first and second modulated signals according to a packet communication speed/channel variation speed relationship, packet length, or channel variation speed itself.

Regarding claims **13 and 18**, these claims are further limiting to claim **10** and are thus also allowable over the prior art of record.

Regarding claims **14, 16, 19 and 21**, these claims are further limiting to claim **11** and are thus also allowable over the prior art of record.

Regarding claims **15, 17, 20 and 22**, these claims are further limiting to claim **12** and are thus also allowable over the prior art of record.

Regarding claim **23**, the prior art of record teaches the performing of coherent detection and delay detection of a received signal. The prior art of record fails to teach selecting between first and second modulated signals according to a packet communication speed/channel variation speed relationship, packet length, or channel variation speed itself.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

5. Applicant's amendments to claims **16, 17, 21, and 22**, to overcome objection under 37 CFR 1.75c are proper. The objection has been withdrawn.

6. Applicant's arguments with respect to claims **13-15 and 18-20** have been fully considered and are persuasive. This rejection has been withdrawn.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gardner (U.S. 5,517,530) teaches a method and apparatus for dual demodulation of mobile channel signals that makes use of a coherent demodulator, a non-coherent demodulator, and a selector for selecting the higher quality signal output by the two demodulators. Gardner fails to teach selecting either coherent detection or delay detection according to either a packet communication speed/channel variation speed relationship, packet length, or channel variation speed itself.

Kazecki et al. (U.S. 5,488,638) teaches a clock recovery method that makes use of a coherent detector, a delay detector, and a detector choice circuit for detecting a total number of bit differences output by the detectors. Kazecki et al. fails to teach selecting either coherent detection or delay detection according to either a packet communication speed/channel variation speed relationship, packet length, or channel variation speed itself.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.  
Examiner  
Art Unit 2666

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**FRANK DUONG**  
**PRIMARY EXAMINER**